

MULTICHANNEL FILTER FOR OUTDOOR HANDHELD
ULTRA WIDEBAND COMMUNICATIONS

Abstract of the Disclosure

A multichannel filter-based outdoor handheld UWB communication transceiver is provided according to some
5 embodiments. The multichannel filter may be reused to
produce the 11-multichannel UWB signal with multi-carrier
frequencies by using either one single digital FIR lowpass-
shaping filter or one digital cascaded FIR filter including
the digital multiband FIR lowpass-shaping filter and the
10 digital FIR rejected lowpass filter. The handheld UWB
communication transceiver may transfer the UWB signal with
scalability data rates up to 7.15 Gcps for the outdoor
operations.